

ABSTRACT OF PROTOCOL

This protocol is a study of patients with advanced neuroblastoma who have failed conventional therapy. In an attempt to increase the patient's immune response to the tumor, the interleukin-2 (IL-2) gene will be introduced into a tumor cell line established from the patient. These gene-modified autologous tumor cells will then be injected subcutaneously into the patient. To determine the toxicity associated with returning transduced tumor cells to the patient a Phase I dose escalation study is proposed. The patient's immune system will be studied both at the local site(s) of tumor injection as well as in the peripheral blood. These studies will look for evidence that the presence of IL-2 secreting tumor cells has changed the patient's immune responses, in particular their response to their tumor cells. The patient will also be assessed clinically to see if this intervention has affected the patient's disease course.

Animal models have shown both the injection of gene modified tumor cells and the derived stimulated lymphocytes to have important antitumor effects. In vitro experiments using patient lymphocytes and patient transduced tumor cells has shown increased antitumor activity of the lymphocytes related to the gene transfer into tumor cells. The patients will be evaluated for antitumor effects engendered by the injection of the gene modified tumor cells. The injection of gene modified tumor cells may serve to "immunize" the patient to their tumor and may be amenable to use in a wide variety of tumor types, especially those that are poorly immunogenic. This protocol may increase the effectiveness of anticancer treatments available to patients with neuroblastoma or other forms of cancers.